MONTHLY WEATHER REVIEW.

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INTRODUCTION.

This REVIEW contains a general summary of the meteorological conditions which prevailed over the United States and Canada during February, 1885, based upon the reports from the regular and voluntary observers of the Signal Service and from co-operating state weather services.

Descriptions of the storms which occurred over the north Atlantic ocean during the month are also given, and their approximate paths shown on chart i.

The paths of the centres of eleven atmospheric depressions are shown on chart i., and are described under "Areas of low barometer"; the average number of depressions for February during the last eleven years is twelve. The low area described as number viii. was of unusual severity along the Atlantic coast north of Virginia, and was accompanied by remarkably high tides, which, at numerous points are reported to have been the highest known for many years.

The month was colder than the average in all districts east of the Rocky mountains. In the lake region and central valleys the mean temperatures averaged from 10° to 15° below the normal. In the central Mississippi and Ohio valleys, in the Gulf states, and on the Atlantic coast south of New England the mean temperatures were the lowest that have occurred since the establishment of the Signal Service stations. The minimum temperatures occurring on the 10th and 11th during the prevalence of high-area number iii., were remarkably low, and in numerous instances they are reported to have been the lowest recorded in February during the period covered by Signal Service observations.

The precipitation was below the average in nearly all parts of the country, the exceptions being the Florida peninsula, Rio Grande valley, the northern and middle plateau districts, and a few isolated localities.

Very severe snow-storms occurred in the northern and western districts during the passage of low-areas v., vii., and viii. Railroads were blockaded and all kinds of travel interrupted.

In the preparation of this REVIEW the following data, received up to March 20th, 1885, have been used, viz.: the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and twenty-nine Signal Service stations and seventeen Canadian stations, as telegraphed to this office; one hundred and fifty-seven monthly journals and one hundred and sixty-two monthly means from the former, and twenty monthly means from the latter; two hundred and seventy-six monthly registers from voluntary observers; forty-six monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs, furnished by the publishers of "The New York Maritime Register;" monthly reports from the New England Meteorological Society, and from the local weather services of Alabama, Georgia, Illinois, Indiana, Louisiana, Minnesota, Missouri, Nebraska, Ohio, and Tennessee, and of the Central Pacific Railway Company; trustworthy newspaper extracts; and special reports.

ATMOSPHERIC PRESSURE.

[*Expressed in inches and hundredths.*]

The distribution of mean atmospheric pressure for February, 1885, determined from the tri-daily telegraphic observations of the Signal Service, is shown by the isobarometric lines on chart ii.

The regions of greatest mean pressure are inclosed by the the isobar for 30.2, and comprise parts of the northern and middle plateau districts, and a small area in northeastern Montana. The mean pressure is least over New England and the Canadian maritime provinces, where the barometric means decrease to 29.85 and below, the lowest, 29.81, being reported from Sidney, Nova Scotia. The isobar for 30.1 extends from Manitoba southward to the lower Rio Grande valley, and thence northwestward near the Mexican boundary to the coast of southern California; in the districts to the east of it the barometric means are lower and to the northward and westward they are higher, except in northern Washington Territory where the mean pressure falls to 30.01 at Tatoosh Island.

As compared with the mean pressure for the preceding month there has been a decrease in all parts of the United States, except at Cape Mendocino, California, and Fort Canby, Washington Territory, where a slight increase has occurred. In the Rocky mountain regions and in the northern districts to the eastward the decrease varies from .01 to .10; in the middle Atlantic and Gulf states, lower Missouri, central Mississippi, and Ohio valleys, and in Tennessee, from .10 to .15; in the south Atlantic states from .15 to .18.

The departures from the normal pressure for February are given in the table of miscellaneous meteorological data; they are also exhibited on chart iv. by lines connecting stations of equal departure. A very slight excess is shown in the central Rocky mountain districts, in northern California and southern Oregon, the departures not exceeding .03. In all other districts the mean pressure is below the normal, the deficiencies ranging from .01 to .07 west of the Mississippi; the deficiencies are most marked along the Atlantic coast, where they vary from .15 to .20.

BAROMETRIC RANGES.

The monthly ranges at the Signal Service stations are given in the table of miscellaneous meteorological data; they were greatest in the lower lake region, middle Atlantic states and New England, where they varied from 1.30 to 1.44, the greatest being reported from Erie, Pennsylvania; the monthly ranges were least in southern California, Arizona, and southern Florida, the smallest, 0.46, occurring at Key West, Florida, and Los Angeles, California.

AREAS OF HIGH BAROMETER.

During the month five areas of high barometer passed over the districts east of the Rocky mountains and one from the Pacific coast to the middle plateau district, where a well-defined area of high pressure was central at the last report of the